

WHAT IS CLAIMED IS:

1. A disc drive comprising:
a head suspension assembly supporting a head;
a transducer supported on the head suspension
assembly to induce a transducer signal
in response to head vibration; and
a detector receiving the transducer signal
and outputting a level detected signal
indicative of head vibration.
2. ~~The disc drive of claim 1 wherein the level
detected signal is indicative of head-disc contact.~~
3. The disc drive of claim 1 wherein the detector
includes a frequency filter.
4. The disc drive of claim 3 wherein the
frequency filter is configured to pass at least one of
a bending mode or torsion mode frequency.
5. The disc drive of claim 1 wherein the
transducer is a piezoelectric material.
6. The disc drive of claim 1 wherein the
transducer is an electrostatic transducer.
7. The disc drive of claim 1 and further
comprising:
a process controller coupled to the detector
and configured to receive an outputted
level detected signal and output a
process command to reexecute the write
command in drive memory.

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even

Sub
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C3

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A7

8. The disc drive of claim 1 and further comprising:

5 a microactuator controller coupled to the transducer and configured to transmit a signal to the transducer to move the head.

9. The disc drive of claim 1 wherein the disc drive includes a plurality of head suspension assemblies and including a transducer coupled to each head suspension assembly.

10. The disc drive assembly of claim 1 wherein the transducer is configured to operate between a detection mode and a actuation mode, in the detection mode, the transducer detecting head vibration and in the actuation mode the transducer moving the head.

11. The disc drive assembly of claim 12 including: a microactuator controller coupled to the transducer and configured to operate the transducer in the actuation mode.

12. A method for operating a disc drive comprising steps of:

- 25 (a) providing a transducer supported on a head suspension assembly configured to generate a transducer signal indicative of head vibration; and
- 30 (b) detecting the transducer signal and outputting a level detected signal indicative of head vibration.

5.9 13. The method of claim 12 wherein the transducer is a piezoelectric transducer.

14. The method of claim 12 and further comprising
5 the step of:

(c) transmitting a signal to the transducer to move the head.

15. The method of claim 12 and further comprising
10 steps of:

(c) transmitting a command to rewrite a write command in drive memory in response to a level detected signal indicative of head vibration.

16. The method of claim 12 and comprising the step
of

(c) filtering the transducer signal for vibration frequencies of the head.

17. The method of claim 12 wherein the disc drive includes a plurality of head suspension assemblies and further comprising:

(c) detecting vibration for each of the plurality of head suspension assemblies.

18. The method of claim 12 including a microactuator controller coupled to the transducer and configured to transmit a signal to the transducer to move the head and comprising the step of:

(c) selectively operating the disc drive in a detection mode and an actuation mode, in the detection mode the transducer detecting head vibration and in the

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actuation mode, the transducer moving
the head.

19. A disc drive assembly comprising:
a head suspension assembly supporting a head;
and
means for detecting head vibration.

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A10

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C9
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D11

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